PRIMARY GRADE EXPERIENCES AND THE READING PERFORMANCE OF STUDENTS WITH LEARNING DISABILITIES IN THE MIDDLE SCHOOL

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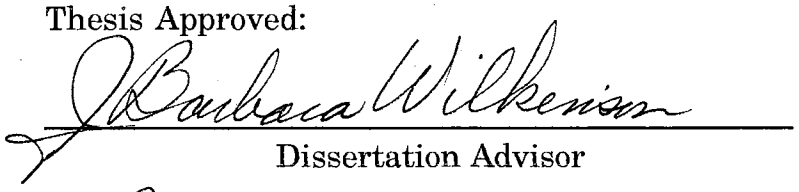

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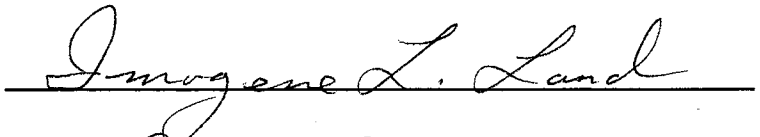

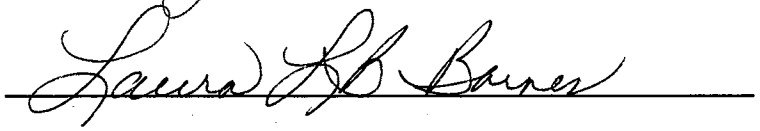

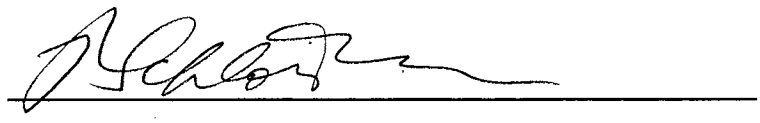

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CHAPTER I

INTRODUCTION

Does the use of nonpromotion as part of the primary grade (K-3) experience affect the reading achievement of students with learning disabilities (LD) in the middle school? There are some indications that nonpromotion may be associated with increases in reading achievement among regular classroom students, although the long term effects are not well documented (Ogden, 1971; Sandoval & Hughes, 1981).

The problems that result from learning disabilities are usually manifested as apparent immaturity or academic difficulties early in a child's school experience (Niklason, 1987; Reinherz & Griffin, 1970; Scott & Ames, 1969). Students with learning disabilities experience twice the percentage of nonpromotions in primary grades when compared to regular students (Carstens, 1985; McLeskey & Grizzle, 1992; Niklason, 1987). Is this widespread use of nonpromotion for students with learning disabilities an effective educational practice?

A concern for students with learning disabilities is the efficacy of providing another year of traditional grade level instruction rather than individualized instruction designed to address the student's unique needs. The problem examined in this study is: does the use of nonpromotion as part of the primary grade experience affect the reading achievement of

students with learning disabilities in the middle school?

Background of Problem

Educational Trends

Nonpromotion practices are so common in the United States that each year approximately 2.3 million students are held back in school (Dawson, Rafoth, & Carey, 1990). Cumulative retention rates show that 27% of all children are a year or more behind age appropriate grade placement when they are thirteen years old (United States Department of Education [USDE], 1992).

Most nonpromotions occur during the primary grade experience (Peyton, 1968; USDE, 1988; United States Bureau of Census, 1990). The primary grades may be particularly critical for students with learning disabilities as they are distinct candidates for grade retention or transition programs (Gredler, 1980; McLeskey & Grizzle, 1992).

Social Concerns

The decision to nonpromote students may involve variables that do not have a significant correlation with academic outcomes. Characteristics of the children who experienced nonpromotion include: a greater percentage of racial or ethnic minorities (Abidin, Golladay, & Howerton, 1971; Niklason, 1984; Sandoval & Hughes, 1981) a lower socio-economic status (Abidin et al., 1971; Reinherz & Griffin, 1970); a larger number of males (Josephina, 1962; Lieberman, 1980); and younger ages

than their classmates (Langer, Kalk, & Searls, 1984; Shepard & Smith 1986). In fact, males who are the youngest or close to the youngest in class are at the highest risk for nonpromotion (DiPasquale, Moule, & Flewelling, 1980; Lieberman, 1980).

There are few, if any, clear cut criteria for promotion policies. Retention rates are extremely varied throughout the United States (Rose Medway, Cantrell, & Marus, 1983) and are even inconsistent within school districts (Niklason, 1987) or individual schools (Jackson, 1975). It was found in a study of 7,000 students (Abidin et al., 1971) that for 24% of the nonpromotions there was no reason specified. The result may be a practice that is arbitrary and not based on established educational practices (Leinhardt, 1980; Madaus, 1988; Ross, 1977).

Unresolved Issues

There is little research evidence to support either nonpromotion or promotion as educational practices. While much of the research has provided mixed findings, it has been suggested that between 21% to 38% of the nonpromoted students benefit from the practice of nonpromotion (Abidin et al., 1971; Holmes & Matthews, 1984; Jackson, 1975; Josephina, 1962; Niklason, 1984; Sandoval & Hughes, 1981). Attempts to identify particular subgroups of students who may benefit from nonpromotion practices have not been successful (Niklason, 1987; Sandoval, 1982).

Importance of Study

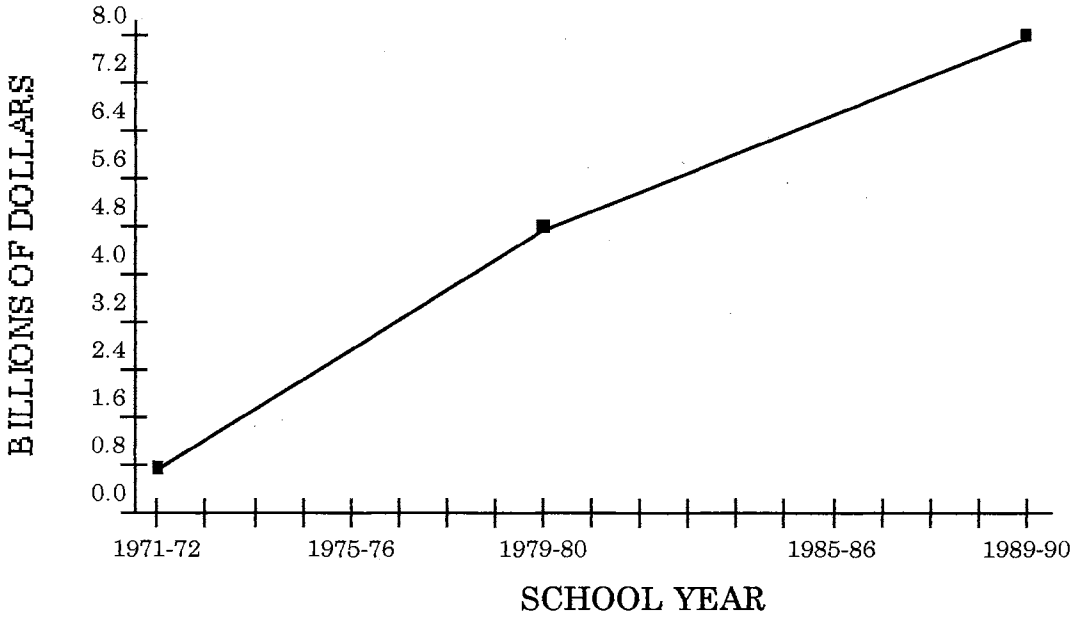
This study has implications for the student, teacher, school district, and taxpayers. Nonpromotion policies can have both a social and academic impact upon the student. The student's social group is changed and the effect of this change is uncertain. Jackson (1975) and Jones and Southern (1987) question how repetition of a grade alone is likely to reduce the academic difficulties a student is having from one year to the next.

Teachers have been frustrated by the difficulties involved in finding successful strategies for instructing students with learning disabilities. Ineffective educational practices may lead to problems for the teacher in the classroom (Hess, Martin, Parker, & Beck, 1978).

The cost of providing a nonpromotion year for students has increased from approximately $800 million during the 1971-71 school year to nearly $8 billion for the 1989-90 school year as shown in Figure 1 (Hess et al., 1978; Jackson, 1975; USDE, 1989, 1991). From the perspective of the school district and the taxpayer with limited resources, this additional year takes its toll financially. With increased concern from taxpayers about spending, cost effectiveness is an area of interest. Hess et al. (1978) said nonpromotion "... gives the district one year for the price of two " (p. 157). If the student is receiving significant benefits from nonpromotion, then the money is well spent. If the student is not receiving significant benefits from nonpromotion practices, then funds may be better used for techniques and methods that may be more effective. The question is how much learning occurred and what is the cost to the student (Hess et al., 1978).

Figure 1

Yearly Cost of Nonpromotion



Problem Statement

Reading may be the most significant area of academic achievement for this study, as poor reading is the primary academic problem for 80% of the students with learning disabilities (Kirk & Elkins, 1975). It has been suggested that there may be some relationship between reading achievement and nonpromotion as the achievement scores of some students increase after nonpromotion practices (Holmes & Matthews, 1984; Niklason, 1984). Several researchers have indicated that initial gains are not maintained into later grades (Abidin et al., 1971; Ogden, 1971; Raygor, 1972). These studies were conducted on regular education students; no studies have been undertaken involving students with learning disabilities. The primary problem to be examined in this study is: does the use of

nonpromotion as part of the primary grade experience affect the long-term reading achievement of students with learning disabilities?

Purpose of Study

Oermann (1990) reported that students with learning disabilities received the most benefit if they were identified and provided appropriate instruction at an early age. If students with learning disabilities receive the most benefit from the early application of effective educational practices, then the question of a relationship between nonpromotion in the primary grades and reading achievement becomes very important.

The need exists for long-term data on the relationship between the primary grade experience and the reading achievement of students with learning disabilities in the middle school. This study investigates the question, does the use of nonpromotion as part of the primary grade experience affect the reading achievement of students with learning disabilities in the middle school?

Variables for Study

The dependent variable selected for study is the reading level of the student with learning disabilities in the middle school. The independent variable is the promotion/nonpromotion condition during the primary grade experience. There are three levels of condition: grade retention, transitional placement, and promotion. The conditions were not manipulated in this causal-comparative study, as they were part of the

primary grade experience. The promoted group is considered to be the control group, as they experienced the traditional sequence of promotion.

The nonpromotion decision is not completely dependent upon academic achievement (Light, 1986; Sandoval & Hughes, 1981). Factors that have been suggested as influencing the nonpromotion decision are listed in Table 1 (See Appendix A; Abidin et al., 1971; Bredekamp & Shepard, 1989; Carstens, 1985; Gredler, 1984, Jackson, 1975; Lehr, 1982; Light, 1986; Niklason, 1984; Sandoval, 1980; Stringer, 1960).

Table 1

Factors Affecting the Nonpromotion Decision

•academic achievement	•aggressive and disruptive behavior
•delinquency	•emotional stress
•family transiency	•gender
•intelligence	•lack of effort or motivation
•limited English proficiency	•low socio-economic level
•number of siblings	•parental attitudes toward retention
•physical size	•poor attendance
•racial/ethnic backgrounds	•serious health problems
•working mothers with the absence of a father in the home	

The majority of these factors did not make a considerable contribution in over 50% of the nonpromotion decisions nor did they relate to academic achievement and are not included as factors in this study (Vasa, Wendel, & Steckelberg, 1984). Of those listed, the factors that appeared to account for the most variance in the nonpromotion decision included: academic achievement, poor attendance, delinquency, and

racial/ethnic background involving students with little or no knowledge of English (Carstens, 1985; Light, 1986; Sandoval, 1980; Sandoval & Hughes, 1981; Vasa et al., 1984).

Students who, while in the primary grades, exhibited poor attendance or delinquency (see Appendix A) are not included in any treatment or control group involved in this study. These particular problems may indicate difficulties other than the presence of a learning disability such as a physical or emotional problem (Oklahoma State Department of Education [OSDE], 1990a).

Students who exhibited limited English proficiency are not included in any groups involved in this study because the Oklahoma State Policies and Procedures for Special Education (OSDE, 1990a) suggest that this type of cultural disadvantage would indicate that the student is not eligible for services as a student with learning disabilities.

Researchers have found a significant correlation between socio-economic status and reading achievement (O'Connor & Spreen, 1988; Morrison & Hinshaw, 1988; Muehl & Forell, 1973-1974). Socio-economic status may affect the outcome of the nonpromotion decision through parental attitudes and communication. Parents are often the ones left to help children deal with the fears and frustrations. Parents from low socio-economic status groups who are poorly educated can add to the stress that children experience (Byrnes, 1989). In this study socio-economic status is treated as a control variable.

The initial differences in reading achievement among the three

groups is not considered as the basis for the variability of the student's promotion/nonpromotion condition for two reasons. First, all the students in the study have reading problems significant enough to be classified as learning disabled. Second, the nonpromotion decision is not always dependent upon the student's reading level (Gredler, 1992; Light, 1986; Niklason, 1984). The students' reading level, prior to the treatment, does present a degree of individual difference (Sandoval, 1980). This reading level is considered a covariate. The individual difference is controlled for through the use analysis of covariance (Kenny, 1975; Rubin, 1974).

Of the students with learning disabilities, there are approximately two and one-half to three times the number of males as females (Heward & Orlansky, 1992; Lerner, 1993; United States General Accounting Office, 1981). This study is limited to males so that the results are not confounded by sex. Students who have experienced two nonpromotions will also be excluded as to not confound the results.

Questions to be Answered

This study examines the reading achievement of middle school students with learning disabilities to determine if the reading achievement of promoted students is significantly different from the reading achievement of nonpromoted students.

Conceptual Assumptions

A central assumption involves the concept of learning disabilities.

While students with learning disabilities comprise a heterogeneous group that may influence the outcome of research dealing students with learning disabilities, for the purposes of this study all students with learning disabilities are considered a single group of students in need of individualized instruction in reading.

Rationale

If the intent of education is to provide long-term benefits to students, this can only be assessed after a period of several years. Many studies Niklason (1984) reviewed considered a period of one year or less, when determining the effects of nonpromotion. Sandoval & Fitzgerald (1985) report that long-term follow up of students, greater than 2 or 3 years, is rare. This study is an attempt to provide information about the long-term effects of the primary grade experience on students with learning disabilities using measures of reading achievement in the middle school.

Hypothesis

The null hypothesis (H_0) to be examined in this study is: there is no significant difference in the middle school reading achievement of students with learning disabilities among the primary grade placement conditions. An alpha level of .05 will be used as the criterion for rejection of the null hypothesis.

Definition of Terms

In this study a student is considered learning disabled if the school of residence has determined eligibility for this category according to the Oklahoma State Policies and Procedures for Special Education (OSDE, 1990a). All students with learning disabilities included in this study exhibited a severe discrepancy between ability and achievement in reading.

The primary grades included Kindergarten through the third grade. The middle school for this study involved the sixth, seventh, and eighth grades.

Nonpromotion was defined as any method by which a student takes two years to complete a single grade, including retention and transitional placement. Retention was considered the repetition for one year of the same grade level. Transitional placement (e.g., T-1, K-1, or other developmental first grade programs) occurred when a student was provided a year of specially designed instruction between kindergarten and first grade, or between the first and second grades (Dawson et al., 1990; Gredler, 1984; Shepard & Smith, 1987).

Socio-economic status was categorized as low, medium, or high based upon the student's ability to qualify for a free, reduced, or paid lunch under USDE Chapter I guidelines (see Appendix A).

The reading achievement of the students in the middle school was the standard score achieved on an individually administered Woodcock Language Proficiency Battery (WLPB) in the sixth, seventh, or eighth grades (Woodcock, 1980). The initial reading achievement of the students

in kindergarten was the score on the Metropolitan Readiness Test or equivalent used by the district of residence (Bieger, 1985)

Poor attendance was evident if the student has missed more than 25 days of school during the academic year. A student was determined to be delinquent if the student had contact with law enforcement resulting in a judicial or administrative hearing and/or had a history of discipline problems in the classroom, playground, and community noted in the student's school records or on the 'Behavior in regular learning environment' section of the Referral for Evaluation (see public domain document in Appendix B).

Limited English proficiency was determined by documentation that a student came from a background where English was not the primary language used and this language difference severely affected the student's success in school (OSDE, 1990b). This information was written in the Language/ Communication Data section of the Referral for Evaluation or the student may have had a cultural disadvantage noted on the Learning Disabilities -- Evaluation Summary (see public domain document in Appendix B; OSDE, 1990a).

Scope and Delimitations

Design bias may occur in setting up the study. The two most common design biases have been identified by Jackson (1975) and Coffield and Bloomers (1956) as: Type I - biased toward the benefits of promotion by ignoring pre-test factors or other effects such as history or maturation;

and, the Type II design - biased toward the benefits of retention through the lack of a control group.

Matching students on selected characteristics has been used by researchers in attempts to control for pre-test factors, history, maturation and other individual differences. The major difficulties inherent in this approach is that even when promoted and nonpromoted students are matched on the major characteristics there is: (1) inadequate assurance the pupils were initially similar with respect to the actual conditions that preceded promotion or nonpromotion; and, (2) no evidence that these characteristics will have an effect on the dependent variable (Jackson, 1975; Jones & Southern, 1987; Shepard & Smith, 1986). Jackson (1975) comments that very few researchers have much confidence in post-hoc matching of subjects who were naturally selected into different treatments.

A causal-comparative design was used to counter these biases, where pre-test variables and other factors were controlled. The lack of control, manipulation, and randomization are threats to validity in the causal-comparative design. The use of the promoted group, as a control, provided insurance against mistaking the effects of history or maturation for treatment effects. In this study the groups have already received the treatment. Random assignment may be unethical given the potential negative impact of nonpromotion. Random assignment, also, was not practical as parents and schools control the decision of nonpromotion. The subjects were randomly selected male students with learning disabilities in the middle school who had been promoted or not promoted following a

natural procedure, to maintain the integrity of the programs (Isaac & Michael, 1987).

Several difficulties may be involved in establishing a relationship between the dependent and independent variable. The presence of another factor that influences both independent and dependent variables may be involved. Through a thorough review of the literature, potential factors have been identified. The potential factors were either controlled for by inclusion in (socio-economic status), elimination from (poor attendance, delinquency, or limited English proficiency), or lack of significance to the study (Carstens, 1985; Sandoval & Hughes, 1981; Vasa et al., 1984). Reversed causality need not be considered as reading level in later grades would not affect the student's promotion nor nonpromotion in the primary grades.

When conducting long-term studies of children with learning disabilities there are several suggested guidelines. First, clearly define the treatments and terminology. Second, use a sufficiently large sample size to allow for broad generalization of findings and provide for an adequate comparison group. Third, allow for an adequate period of time to investigate the long-term effects. Fourth, use a valid and objective measure of reading rather than reliance upon teacher and parent ratings as criteria for success. Fifth, investigate interactive effects between the treatments (Jackson, 1975; Jones & Southern, 1987; Sandoval & Fitzgerald, 1985; Sandoval & Hughes, 1981; Schonhaut & Satz, 1983).

Outline of Remainder of Study

The remainder of the study provides a historical review of the practice and effects of primary grade nonpromotion. The sample used is large enough to determine if the reading achievement of promoted and nonpromoted groups was significantly different, and allows for a generalization of the findings.

Standardized, normed instruments with sufficient reliability and validity were used to measure reading readiness and reading achievement. The interactive effects between the treatments, outcomes, and the characteristics of subjects are analyzed. The levels of significance are reported and discussed.

CHAPTER II

REVIEW OF THE LITERATURE

Popular Usage

Nonpromotion practices date back to the British school system in the 16th Century, where they were widely followed (Hess et al., 1978). With the introduction of graded classes to the United States in the early 1800's, nonpromotion became an accepted method of correcting academic deficiencies (Cunningham & Owens, 1976). By the 1930's recognition of the potential adverse effects of nonpromotion resulted in policies of social promotion, which continued until the 1960's.

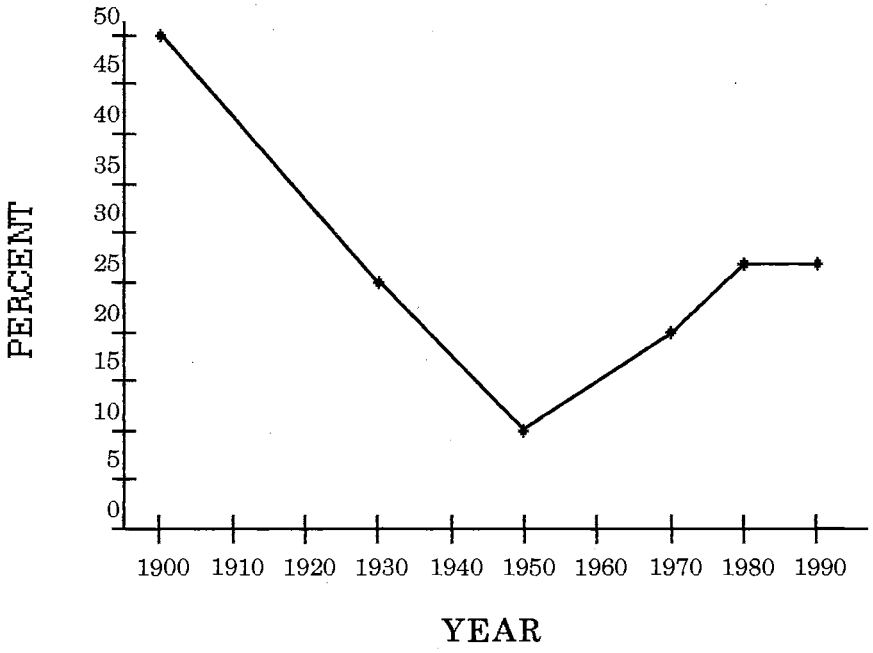
In the early 1960's a decline in student achievement scores on standardized tests was noted. This decline in test scores was partially attributed to social promotion and lower standards (Rose et al., 1983). The 1970's and 1980's brought an increased interest in student competencies through criterion referenced testing and the mastery of basic skills (Sandoval & Fitzgerald, 1985; Vasa et al., 1984).

As Figure 2 (Coffield & Bloomers, 1956; Larson, 1955; USDE, 1988; USDE, 1992) shows, the practice of nonpromotion decreased from the early 1900's to the 1950's. The concern over student achievement scores arising in the 1960's and outcome-based education and the basic skills movement of

the 1980's corresponds with an increase in the practice of nonpromotion (Finlayson, 1977; Holmes, 1983; Sandoval & Fitzgerald, 1985).

Figure 2

Cumulative Nonpromotion After Elementary Grades By Year



Current cumulative retention rates show that twenty-seven percent of all children are a year or more behind age appropriate grade placement when they are thirteen years old (USDE, 1990). Approximately twice as many students with learning disabilities experienced nonpromotion (McLeskey & Grizzle, 1992; Osborne, Schulte, & McKinney, 1991).

The use of nonpromotion is currently thought by educators to be an effective solution for below grade level academic performance (Byrnes, 1989; Gredler, 1992). Smith (1989) noted that teachers view nonpromotion as a

preventive measure for a variety of ill effects including frustration, stress, and difficulty in school. A 1981 National Education Association (NEA) survey found that one-third of the 2,000 teachers surveyed reported that students were not promoted until they could achieve at a satisfactory level (National Education Association, 1982). The National Commission on Excellence in Education (1983) recommended promotion policies that are based on academic progress rather than strictly following age standards.

It appears that the public agrees with these professional positions. The 24th Annual Gallup/Phi Delta Kappa Poll found that 60% of the respondents favored a grade promotion policy determined by the student's score on a standardized national examination (Elam, Rose, & Gallup, 1992). In a 1986 Gallup poll, 72% of the respondents favored promotion only if the student could pass an appropriate examination. Previous polls in 1978 and 1983 found that, 68% and 75% of the respondents respectively expressed a similar belief (Gallup, 1986; Gallup 1983; Niklason, 1984). While support may fluctuate, parents generally agree with teachers that retention in grade is an acceptable technique for improving student achievement.

Historical Review

In 1904, the Superintendent of New York City schools published the first report on nonpromotion in grade (Coffield & Bloomers, 1956). The problem of social promotion versus promotion based on rigid standards has continued to be a subject debated by educators. Over eighty years of

research conducted into the issue of nonpromotion, with research findings reported as early as 1909, has yielded little definitive information. Josephina (1962) summarized the research findings prior to the 1960's and found several effects. First, retained children made no more academic progress than promoted peers and frequently showed decreases in academic progress. Second, the threat of failure lacked a beneficial effect on low achieving children. Third, the personal and social adjustment of promoted children was better than nonpromoted children. Fourth, the average level of achievement for all pupils was higher in schools with high promotion rates. The fifth and final finding was that a high rate of retention did not increase homogeneous grouping.

Holmes & Matthews (1984) conducted a meta-analysis of research articles from 1954 through 1978. They concluded that when students were not promoted with the intention of improving academic achievement, these nonpromoted students fell behind during the nonpromotion year and spent the rest of their schooling in an attempt to catch up.

Niklason (1984) reviewed the research from 1966 through 1983 and summarized her findings by stating that, "...academically, most children who have been retained have not profited, but have actually experienced less growth following retention..." (p. 492). The review showed that the promoted students made significantly grater growth in the following year than did the nonpromoted students.

While these findings are negative, overall the results of investigations into the effects of nonpromotion are inconclusive, with the

review and research articles resulting in mixed findings over 33% of the time and over 20% of the studies favoring nonpromotion (Holmes 1989; Niklason, 1984; Sandoval & Hughes, 1981). The results of many previous investigations may have been affected by design biases in setting up these studies. The two most common design biases have been identified by Coffield & Bloomers (1956) and Jackson (1975) as: Type I - simple uncontrolled comparisons between students who were retained and their promoted peers; and Type II - pre-post testing designs comparing students before and after retention.

The Type I design compares nonpromoted students who are having difficulty to promoted students who are not having severe problems. The Type I design is thus, biased toward the benefits of promotion by ignoring pre-test factors or other effects such as history or maturation. Of the 104 Type I studies examined by Jackson (1975), 24 reported statistically significant academic benefits for promoted pupils while only two studies favored nonpromotion. The remaining 78 studies reported nonsignificant findings.

The Type II design is biased toward the benefits of retention through the lack of a control group. The academic achievement and social adjustment of nonpromoted students after nonpromotion is compared to their academic achievement and social adjustment prior to nonpromotion. Maturation and instrumentation were significant concerns in interpreting the results of Type II studies. Of the 73 Type II studies, 69 statistically favored nonpromotion and the other 4 reported nonsignificant benefits for

nonpromotion (Jackson, 1975).

Significance of Primary Grade Experience

Most nonpromotions, either grade retention or in a transition program, occurred during the primary grade experience for students with or without learning disabilities (McLeskey & Grizzle, 1992; USDE, 1990). While meta-analyses of studies investigating the effects of nonpromotion from 1929 to 1981 found significant effects at all grade levels from one through six, the largest effects were found in the first through the fourth grades. The area of academic achievement that was affected the most was reading (Holmes 1989; Holmes & Matthews, 1984).

Niklason (1987) found an interaction effect for group (nonpromoted or promoted) by grade. Her research showed that the promoted younger children, although recommended for retention, maintained the same mean reading score after one year. On the other hand, children in the first grade who experienced nonpromotion showed a decline in reading achievement. The reading achievement of children in second through the sixth grades showed a slight improvement for the retained and promoted group. It appears that nonpromotion during the primary grades may have the greatest effect on student's reading achievement.

Rationale for Nonpromotion Practices

When students were not promoted, low academic achievement and immaturity were the two most common reasons given (Curry, 1982;

Gredler, 1992; Jackson, 1975; Niklason, 1984; Lehr, 1982; Vasa et al., 1984). When a reason was given for a referral for nonpromotion, academic concerns were listed most of the time (Abidin et al., 1971; Niklason, 1987). Many teachers expressed concern that the new material would be too hard. They felt that nonpromotion would protect children from the increased academic demands and provide additional time for the students to review previous material (Bredekamp & Shepard, 1989).

Stringer (1960) claims that " ... retentions can help a significant proportion of failing children..." (pp. 374-375), if certain criteria for selection are followed. These criteria include a pre-retention progress rate of less than 50% and a deficit of at least 1/3 of the child's grade placement (e.g., a 0.3 grade deficit in the first grade or a 0.6 grade deficit in second grade). Stringer suggests that students with the lowest rate of progress prior to retention made the most progress. These benefits lasted up through the fifth grade. She notes that long term effects in grade six through eight remain a question in need of further study. In drawing a conclusion for specific learning disabilities, Stringer contends that nonpromotion can be an effective treatment.

Peterson, DeGracie, & Ayabe (1987) provided support for the idea that retention may have more positive results under some conditions. In their program an educational plan was devised to address specific academic deficiencies. In this program retention is not just repeating the same experiences a second time, but a program designed to overcome the student's deficiencies. The researchers found increased achievement that

lasted until the third year, they concluded that retention with remediation had better results than retention alone.

Immaturity is another primary reason given for not promoting students. The rationale for transitional programs is based on the belief that children have 'inner time clocks' to control their growth (Bohl, 1984). Advocates for transitional programs argue that success in the primary grades can only occur with the passage of time due to physical and emotional factors rather than academic. The assumption is that after a transitional program the student will be more mature physically and emotionally and thus can cope with academic tasks (Gredler, 1992). They claim that children who are not ready for increased academics will struggle for the rest of their lives.

Ames (1983) states that many students labeled as learning disabled are too young or immature to perform the required academic tasks and they require a "... simple adjustment in their grade placement" (p. 19). Ames further argues that even if it would be traumatic to nonpromote students, it's better to traumatize them once and get it over with than to face continual problems (Kutner, 1988). This 'natavist' approach, held by nearly half the teachers surveyed by Smith (1989), is based upon the idea that children develop in stages that are largely outside the influence of parents and teachers. The nonpromotion experience is thought to provide students with another year to grow (Gredler, 1992; Niklason, 1984).

Many nonpromoted students have been described as immature and unable to concentrate (Reinherz & Griffin, 1970). The behaviors used by

teachers to describe immature students have been reported by Leiberman (1980) and are listed in Table 2. These behaviors comprise many characteristics of children with learning disabilities (Dennler, Funk, Ruppert, & Jurs, 1986; Lerner, 1993; Telzrow & Hartlage, 1981). Wood (cited in May & Welch, 1984) screened 80 children for maturity levels. Nineteen out of the twenty-five, identified as developmentally young, were later determined to be learning disabled and in need of special services.

Table 2

Behaviors Used to Describe Immature Students

•short attention span	•distractibility
•motor coordination difficulties	•hyperactivity
•perceptual disturbances	•language problems

Effects of Grade Retention

Academic Effects

While improving poor academic achievement was the primary reason given for nonpromotion, several researchers argue that nonpromotion results in lower academic performance (Gredler, 1992; Holmes 1989). Niklason (1984) reported that "The vast majority of children recommended for retention were already achieving academically ... at their expected levels" (p. 495). Shepard & Smith (1986) noted that when retained children were compared to equally low achievers who were promoted, the

socially promoted pupils were consistently ahead on achievement scores.

Other researchers promote the view that nonpromotion results in greater achievement. Reinherz & Griffin (1970) reported that 84% of the first graders who were nonpromoted made satisfactory achievement supporting the concept that nonpromotion is useful. In Jackson's (1975) review, he found 126 studies out of the 220 reviewed that supported nonpromotion. While Niklason (1984) was critical of nonpromotion policies, she found that four of the twelve research studies reviewed supported nonpromotion and two more reported mixed findings. Again, research evidence has not provided clear evidence favoring promotion or nonpromotion for academic achievement.

Reading Achievement

Kirk and Elkins (1975) noted that poor reading was the primary academic problem for 80% of the students with learning disabilities. It has been found that the reading achievement scores of some students increase after nonpromotion practices (Niklason, 1987; Sandoval, 1982). Sandoval & Hughes (1981) found that 38% of the nonpromoted students had increased reading achievement scores after one year.

Johnson, Merrell, & Stover (1990) investigated the academic achievement of fourth grade students who were retained in kindergarten or first grade compared to students who were recommended for retention but not retained and a control group who had not been recommended for retention and made normal progress through the grades. Johnson and his

associates found that there was no significant difference in reading scores between the retained and not retained group, although both groups were lower than the control group. The authors concluded that early grade retention was not an effective academic intervention.

A study by Abidin et al. (1971) suggested that the nonpromoted group's academic achievement deteriorated by the sixth grade, when compared with the promoted group. The researchers found that the nonpromoted group's sixth grade reading achievement scores were significantly below that of the promoted group's reading scores though the nonpromoted group's scores on the Metropolitan Readiness Test, prior to nonpromotion, were significantly higher than the promoted group.

In a study of seventh graders, Kamii & Weikart (1963) found that the promoted group scored almost two grade levels higher in reading than the nonpromoted group, although the nonpromoted group had been in school for an additional year. The students in the Kamii & Weikart study had been retained in grades one through five, the majority occurring in grade two.

Godfrey (1972) surveyed more than 1200 sixth and seventh grade students and found that the reading achievement of nonpromoted students was more than one grade level below that of promoted students. She points out that nonpromotion did not result in helping students 'catch up' academically.

At the high school level, Ogden (1971) in a longitudinal study found that initial reading gains were not sustained. Retained students who were initially judged successful, later received lower achievement test scores

and 50% of the retainees continued to have academic difficulty. An additional finding by Ogden was that retained students, who were having academic difficulty, did no better than students with academic difficulty who were considered for retention but not retained.

Maturity

The effects of nonpromotion on maturity may be difficult to assess due to the lack of a clear definition for immaturity. This is in part due to subjective evaluation procedures (Ilg, 1965; Mitchell, 1985). The Gesell Developmental testing is often used to decide if the child has reached the appropriate level of maturation. This test has been severely criticized for lack of proper validity, reliability, and normative information (Bear & Modlin, 1987 Kaufman, 1985; Kaufman & Kaufman, 1972). Carstens (1985) in his review of the literature found that the "... existing data fail to support Gesellian predictions regarding the immature child" (p. 60).

When teacher ratings of maturity are used bias may occur. First, the teacher is more likely to call a child who is difficult to teach immature. Secondly, when a teacher is asked to evaluate the maturity of students, it is almost assured that some children in every class will be determined to be immature (Jones & Southern, 1987).

The disadvantage stated for children who are the youngest in the class is often exaggerated. O'Donnell (1968) found that the concepts of immature and mature learner did not correlate with academic progress. Shepard & Smith (1986) found that the youngest children were behind by

only 7 to 8 percentile points on achievement tests and this deficit disappeared by the third grade. Langer et al. (1984) found that age effects were not significant for 17 year olds. There appears to be a lack of correspondence between immaturity and classroom performance.

Other Factors

Other factors that may be affected by the nonpromotion decision include: personal adjustment, self-concept, attitude toward school, attendance, and drop-out rate (Byrnes 1989; Grissom & Shepard, 1989; Holmes, 1989).

Holmes (1989) analyzed 27 studies and found that the social adjustment, emotional adjustment and behavior of the nonpromoted students was below, although nonsignificant, that of the promoted students. Although anecdotal records report poor adjustment, the research evidence provides mixed findings and there is no clear indication that the personal adjustment of nonpromoted students is significantly lower than that of promoted students (Bredekamp & Shepard, 1989; Shepard & Smith, 1986).

In the area of self-concept, many nonpromoted students had low opinions of themselves and appeared to have fewer friends than promoted students (Featherstone, 1986). The National Association of School Psychologists (NASP) in a position statement said, "...retention can negatively affect achievement and social/emotional adjustment" (National Association of School Psychologists, 1988). Despite these indications that

nonpromotion can adversely affect a student's self-concept, Holmes (1989) and Shepard & Smith (1989) note that neither retention nor extra year programs provide a boost for the student's self-concept.

Byrnes (1989), in a study of student's attitudes toward repeating a grade, found that nonpromoted students viewed nonpromotion as a punishment and stigma, not like the teachers did as a positive strategy to help them. In her interviews, Byrnes found that most of the students who had been nonpromoted found it difficult to think of something good about being nonpromoted. Again, despite anecdotal records relating a poor attitude toward school with nonpromotion, controlled studies suggested that the attitudes of promoted students and nonpromoted students toward school were not significantly different (Holmes, 1989).

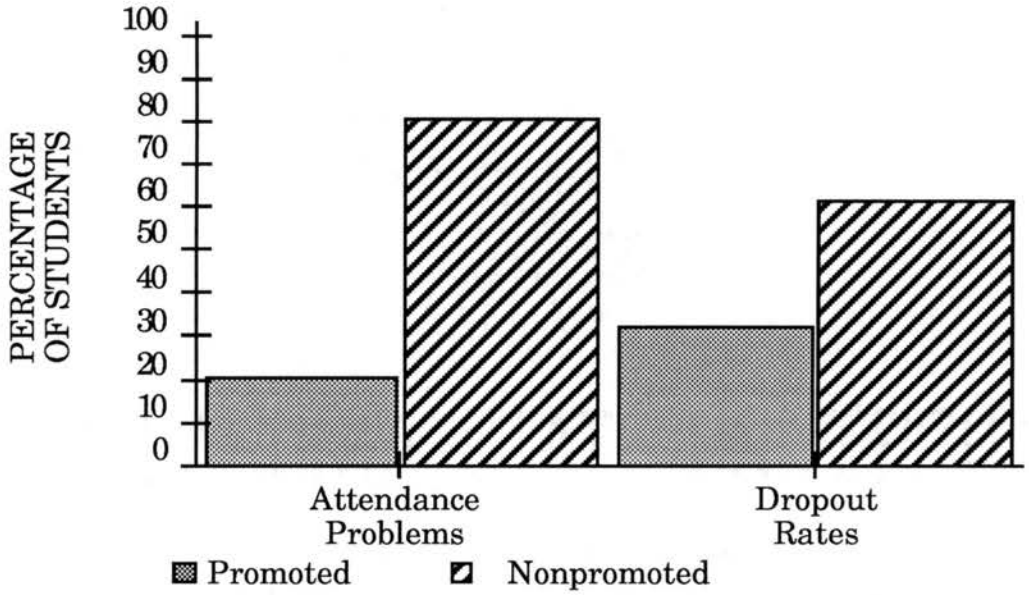
Holmes (1989) reported that nonpromoted students were absent from school more than promoted students. In Boston, a study of middle school students found that nearly 80% of the students with serious attendance problems had repeated at least one grade (Steinberg, 1991).

Grissom & Shepard (1989) reviewed several studies of drop-outs. They found "... that a substantially larger portion of dropouts have repeated a grade" (p. 60). When the researchers accounted for the student's achievement, sex, racial/ethnic background, and socio-economic status, nonpromotion alone appeared to be related to the rate at which students dropped out of school. Between 1981 and 1984, overage was the reason given by 41% of the drop-outs in Los Angeles. The students reported that they hated being 'too old' (Shepard & Smith, 1987).

It appears that nonpromotion has little or no effect on self-concept, attitude toward school, or personal and social adjustment. The greatest effect is related to an increase in attendance problems and lower graduation rates for nonpromoted students as shown in Figure 3 (Grissom & Shepard, 1989; Rice, Toles, Schulz, Harvey & Foster, 1987; Steinberg, 1991; Stephenson, 1985). Of the students with attendance problems or those students who drop out, a greater percentage appears to have experienced nonpromotion.

Figure 3

Attendance Problems and Dropout Rates of Promoted and Nonpromoted Students



Effects of Transition Programs

Academic Effects

While addressing the physical and emotional concerns of students was intended to solve academic problems, transition rooms have not been shown to be more beneficial than grade promotion for students with serious academic difficulties (Gredler, 1984; Jackson, 1975; Niklason, 1984; Shepard & Smith, 1987). Gredler's (1984) review of the literature reported that children placed in age appropriate grades performed as well as, if not better than those children who were placed in transition rooms.

Raygor (1972) examined three groups, transition program students, students who were at-risk but promoted to regular first grade, and kindergarten-retained students. Over three years, achievement tests showed no significant difference between the three groups, although the at-risk but promoted to regular first grade students received the lowest achievement scores of the three groups. It may be important to note that the transition program and kindergarten-retained students were measured in the third grade. The at-risk but promoted to regular first grade group was assessed at the fourth grade level and had higher mean grade placement scores. These scores indicated that the at-risk but promoted students demonstrated higher academic achievement than either the regular first grade or kindergarten-retained students.

Meeks (1982) also compared three groups of students, including those who attended a transition program and students who were at-risk but

promoted to regular first grade. As a control group she included regular students who were not labeled as at-risk. In this causal-comparative study, Meeks reviewed the files of second graders. The Georgia Criterion Referenced Tests administered in the second grade for each group revealed no significant differences, although there were initial differences favoring the control group. When comparing scores of the students in the transition program with those students promoted to regular first grade, Meeks concluded that there are some children who benefit from one extra year. Meeks stated that it was possible that the parents made an additional commitment to help the students.

Matthews (1977) investigated transition program students, students who were at-risk but promoted to regular first grade, regular first-graders, students with delayed entry age, and students who had been retained in the first grade. The transition room program did not result in higher achievement levels in the second or third grades. It was also noted that the transition program and at-risk but promoted to regular first grade group performed at a higher level than did the students who were retained in the first grade. Matthews concluded that nonpromotion was not an effective method of improving academic achievement. He noted that the results favored those students, who were potential failures, performed better in the mainstream.

Reading Achievement

Bell (1972) compared students who attended a transition program

with those students who were at-risk but were promoted to regular first grade. Bell compared all students after two years and she found that the promoted students performed at higher levels on word recognition tests than did the transitioned students.

Examining predictors of early reading achievement, Talmadge (1981) concluded that transition rooms may delay instruction. After controlling for readiness factors, he reported that transition rooms appeared to be detrimental to reading achievement. These results challenge the belief that children who were at-risk for failure are helped by a transition program.

Zinski (1983) compared transition program students with students who repeated first grade. These students were matched on socio-economic status, race, ability, and achievement. After one year, there was no significant difference between the California Test of Basic Skills reading achievement scores of the two groups.

Simpson (1984) examined children who were recommended for a transitional program after kindergarten based upon the Gesell Readiness Test, the Comprehensive Test of Basic Skills (CTBS) and teacher recommendation. After the first grade, Simpson noted that the students in the transition program had shown growth in academic skills and were judged by succeeding teachers to be equal to or slightly better than the rest of the class. He concluded the program was a success and further intervention for these students was unnecessary.

A causal-comparative study of students in grades two, four, and six was conducted by Caggiano (1984). He found no significant differences

between the reading scores of students who attended a transition program, students who were at-risk but were promoted to regular first grade, and regular first-grade students.

May and Welch (1984) compared the reading performance of the three groups from the second through the sixth grades. The three groups contained students who attended transition program, students who were identified as at-risk but promoted to regular first grade, and a group of traditionally promoted students. May and Welch concluded that the transitioned students did not do as well as the regularly promoted students on achievement tests, including reading, despite the extra year of schooling.

Mossburg (1987) examined the academic performance between students who attended a transition program and students who were identified as at-risk but promoted to regular first grade. The academic performance of the students was measured after the first, second, third, and fourth grades. The transition program group achieved higher reading scores after first grade, although not significant. After the second, third, and fourth grades the at-risk but promoted to regular first grade students had significantly higher reading scores. Mossburg reported that older students who had experienced a transition program did not show a higher level of academic achievement. He concluded that schools should conduct long-term evaluations of the benefits of transition programs.

Over a four year period, Phillips (1990) investigated the reading achievement of transition program students, students who were retained

in kindergarten, and students who were promoted to the first grade. The transition program in this study was a year of pre-kindergarten intervention The Iowa Test of Basic Skills (ITBS) was used to measure the students reading achievement. The transition program students had significantly higher scores on reading achievement than did the retained students after the second grade. The transition program students also received higher scores in the third grade than did the regularly promoted students received in the fourth grade.

Maturity

It has been noted that the labels of immaturity were used without adequate evidence or reliable measures. Researchers have found that transition rooms lacked any significant effect on increasing the maturity level of students (Gredler, 1992; Jones & Southern, 1987; Mossburg, 1987).

Other Factors

Caggiano (1984) also examined the behavioral adjustment of the students. He found that although all students demonstrated normal adjustment to school, the students who were at-risk yet promoted to first grade exhibited greater attentional and behavioral problems than either transitioned or regular first-graders.

Summary

Nonpromotion is a widespread practice that draws support from

educators and parents (Elam et al., 1992; Gredler, 1992; USDE, 1990). While twenty-seven percent of all students experience nonpromotion, students with learning disabilities are disproportionally selected for nonpromotion practices (McLeskey & Grizzle, 1992; Osborne et al., 1991). The effects of nonpromotion on academic achievement including reading are unclear (Gredler, 1992; Holmes, 1989; Niklason, 1984; Sandoval & Hughes, 1981; Shepard & Smith, 1989). Transitional placement has been described as an alternative to grade retention. This form of nonpromotion appears to have no significant advantage over grade retention or promotion in increasing reading achievement scores and again the results are mixed (May & Welch, 1984; Mossburg, 1987; Phillips, 1990; Simpson, 1984)

The effect of learning disabilities on reading achievement has been speculated as influencing the student's progress after retention, with the student's learning disabilities continuing to affect progress in acquiring reading skills after nonpromotion (Carstens, 1985; Dawson et al., 1990; Light, 1986; Sandoval, 1980). Stringer (1960) suggests that nonpromotion can be an effective academic treatment for students with learning disabilities. While, Sandoval & Hughes (1981) point out that the children who were no better off after repeating first grade were identifiable as potential special education candidates. Peterson et al. (1987) supported the idea that specially designed nonpromotion programs can result in increased achievement for students with academic difficulties. There have been no studies conducted on students with learning disabilities and special education students have often been excluded by design (Sandoval &

Hughes, 1981) or intent (Kamii & Weikart, 1963).

The effects of nonpromotion on the reading performance of students with learning disabilities may change during the elementary years (Abidin et al., 1971; May & Welch, 1984; Mossburg, 1987; Stringer; 1960). The need exists for long-term data on the effects of the first grade experience upon the reading achievement of learning disabled students. This study examines the relationship between promotion practices in the primary grades and the reading achievement of learning disabled students at the secondary level.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the long-term effects of nonpromotion on the reading achievement of students with learning disabilities by comparing three groups of students. Two groups, the transitioned and retained students, received an extra year of education due to the nonpromotion year. The control group contained students who were promoted in the traditional sequence and had not experienced transition rooms or grade retention. This chapter presents a description of: (a) the subjects, (b) assessment and measurement techniques, (c) design, (d) procedure, and (e) statistical analysis of data.

Subjects

The subjects were randomly selected middle school, male students, with learning disabilities in southeastern Oklahoma. They were identified as having a learning disability after eligibility for a transition program or experiencing nonpromotion. Middle school students, categorized as LD, were selected from the school years 1988-1991. The policies and procedures for serving students with learning disabilities have remained virtually unchanged during this period (OSDE, 1987; OSDE, 1990c).

The students in this study were enrolled in two school districts in

southeastern Oklahoma. The schools were selected based on availability of transition programs during the student's primary grade experience. The total enrollment of these schools was approximately 4,000 students. The records of 212 middle school students with learning disabilities were examined. Records were omitted for 163 students who did not meet the design requirements for the study. These students exhibited behavioral difficulties, had excessive absences, or their files were incomplete. There were no students who demonstrated limited English proficiency among the 212 middle school students with learning disabilities. The students who were included in the study were randomly selected, using a table of random numbers, from the remaining 49 students.

The students were randomly selected in a stratified paradigm to ensure equal representation. The selected sample contained a total of 36 students, with 12 students in each placement condition: promotion, grade retention, and transition. The socio-economic composition for each placement condition was equally divided among the three levels of socio-economic status: high, medium, and low. This resulted in four students for each placement condition at each level of socio-economic status in a block 3 X 3 design

The middle schools contained three grades; sixth, seventh, and eighth. The sixth grade students had a mean age of 12 years 9 months, the seventh graders were 13 years 8 months old and the eighth graders were 15 years 3 months old at the time of assessment for reading achievement. The racial/ethnic composition (shown in Table 3) of the sample was: 26

Caucasians, 7 Blacks, and 3 American Indians.

Table 3

Ethnic Characteristics of Subjects

	Placement Condition			
Ethnic/Race	Retained *n*=	Transition *n*=	Promoted *n*=	Total *n*=
Caucasian	7	9	10	26
American Indian	1	1	1	3
Black	4	2	1	7

Assessment and Measurement Techniques

The dependent variable, reading achievement scores in the middle school, was measured using the reading subtests of the WLPB (Woodcock, 1980). The WLPB was administered by a certified school psychometrist or school psychologist as part of a three-year reevaluation for students with learning disabilities (OSDE 1987; OSDE 1990a).

The raw scores were converted to standard scores (mean of 100 and standard deviation of 15) using a cluster score approach that produces higher validity. The standard scores are based on age level norms to avoid the problem of lack of a constant metric inherent with grade level norms (Jackson, 1975). The standardization procedures for the WLPB appear to be thorough and reliable. The WLPB is recommended as an assessment instrument for reading achievement (Quinn, 1985).

Quinn (1985) also stated that the WLPB has sufficient reliability and

validity to be used in research. Noyce (1985) points out that the wide age range feature of the WLPB (from 3 years of age through adult) makes it particularly useful for collecting longitudinal data to use in determining long-term effects of treatment.

The Metropolitan Readiness Test (MRT) or the Metropolitan Achievement Test (MAT) provided a measure of the student's aptitude for learning to read. The MRT or the MAT was administered by the classroom teacher or counselor in the spring of the kindergarten year. The kindergarten score on the pre-reading composite of the MRT or the MAT is used as a measure of the covariate.

The reliability (KR_{20}) of the pre-reading composite of the MRT is .94 and .95 for the Total Battery. The test-retest stability over a two-week period is .92. Bieger (1985) described the MRT as a "... reliable, valid, and well-designed instrument that can provide useful information " (p. 470). Considering predictive validity, the MRT correlates .70 with Total Reading on the MAT and .69 with the Stanford Achievement Test at the first grade level (Bieger, 1985; Sax, 1989). Talmadge (1981) reported that at the end of the first grade, the Pre-reading Skills Composite of the MRT accounted for 71% of the variance in reading achievement in his study. Dykstra (1972) ranks the MRT very high among readiness tests. He also states that the authors do a convincing job of describing the validity by relating the test with success in later achievement.

The reliability (KR_{20}) of the reading portion of the MAT is .90 (Linn, 1985). The correlation between the MAT and the MRT reading portions, for

combined testings, was .74 (Hildreth, Griffiths, & McGauvan, 1964). Concerning predictive ability, the authors of the MAT did not report correlations, claiming that the correlations did not represent an accurate measure of future achievement as they did not consider cognitive ability. Instead, the authors used a 'predicted achievement range' and reported that 67% of the students fell within the 'predicted achievement range' (Linn, 1985). The reliability and validity of the MRT is comparable to the MRT. The use of the MAT, as another measure of the covariate, does not introduce large amounts of uncontrolled variance into the study.

The MRT and MAT both use raw scores converted into percentile ranks. For this study, the percentile ranks were not changed into standard scores due to the variability of extreme standard scores within a single percentile rank and the spread of percentile ranks with small changes in standard scores near the mean (Sattler, 1988). Therefore, percentile ranks from the MRT or MAT were used as measures of the covariate to maintain the integrity of the test scores.

Design

In selecting the students for this study, four basic conditions were met. First, all students had been determined to be learning disabled after the transition or retention decision. Second, all student's records were complete and the required information was available. Third, all the nonpromoted students had experienced nonpromotion by the third grade. Fourth, all middle school students, with learning disabilities, had an equal

opportunity to be selected for the study.

A block analysis of covariance (ANCOVA) model was selected to account for interactions between placement conditions and socio-economic status while increasing the power of the study (Keppel, 1991; Rogers & Hopkins, 1988; Wildt & Ahtola, 1978). The placement condition (independent variable) and socio-economic status (control variable) each have three levels as shown in Table 4. There are four subjects per cell: placement condition by level of socio-economic status. The specification factor (SF) indicates that error may result from the individual scores within each cell.

Table 4

Specification Table

Variable	Number of levels	SF
Placement Condition	3	0
Socio-Economic Status	3	0
Subjects per cell	4	1
Total Number or Scores	36	

The block design was achieved by using a stratified sampling technique to produce equal-sized cells (n=4) for each placement condition (independent variable) at each level of socio-economic status (control variable), shown in Table 5 (Gay, 1992; Keppel, 1991). The source table for degrees of freedom (*df*) is shown in Table 6 (Keppel, 1991).

Table 5

Schematic Diagram

LEVELS OF SES	LEVELS OF PLACEMENT CONDITION		
	Promoted	Retained	Transition
High	n=4	n=4	n=4
Medium	n=4	n=4	n=4
Low	n=4	n=4	n=4

Table 6

Source Table

Source	*df*
Placement Condition	2
Socio-Economic Status (SES)	2
Placement X SES	4
Kdg Rdg (Cov)	1
Within subjects (error)	26
Total	35

Holmes and Matthews (1984) meta-analysis found that in 24 studies of nonpromotion an effect size of 0.48 standard deviations could be expected for reading achievement. Using Cohen's index of effect size f^2 and the Pearson-Hartley Power Chart, this block ANCOVA model with 36 subjects (n'=12), *df* (2,26), a=.05 produces a level of power of approximately .85 for the main effect (Cohen, 1962; Keppel, 1991; Rogers & Hopkins, 1988; Sedlmeier & Gigerenzer, 1989).

Procedure

Prior to collecting data for this study, permission was obtained from the Institutional Review Board for the Protection of Human Subjects Research at Oklahoma State University (Appendix C) to ensure that the rights and welfare of the subjects involved were properly protected. Next, the Director of Special Services and/or the Superintendent for each school system was contacted to obtain permission to conduct the study and collect data. The written agreement for disclosure of confidential information (Appendix C) was signed by an administrative representative from each school district and the researcher. This agreement prohibited the personal identification of parents and/or students by individuals other than those directly involved. It also assured the school districts of the destruction of information when no longer needed for the purposes of this study.

The researcher and/or research assistants met with each Director of Special Services and/or building principal and obtained access to the confidential and cumulative school records for all middle school students with learning disabilities. Data was collected from middle school students who were administered the WLPB Reading subtest during the school years 1988-1991. The confidential records of these students were reviewed and reading achievement scores were obtained, as well as available demographic information. The cumulative school records were reviewed for kindergarten reading achievement scores, placement condition, socio-economic status, and additional demographic information. The teachers

and/or school administrators were interviewed, as needed, to complete the data collection. All information was recorded on a data sheet that is included with the raw data in Appendix D.

Statistical Analysis of Data

All statistical analyses were calculated using SYSTAT 5.1 for the Macintosh (Wilkinson, 1989-90). This statistics program was utilized to provide the basic descriptive statistics. The program provides for tests of analysis of variance (ANOVA), analysis of covariance (ANCOVA), and main and simple effects.

Prior to including three middle school grades (sixth, seventh and eighth) in the sample, any potential effect of grade level must be determined. The standard scores were used were based on age norms. This allows the tests from the different grade levels to be compared. This was completed using an ANOVA to determine that there was no significant effect of the grade level on reading achievement (Pedhazur, 1982; Wilkinson, 1989-90).

Before analyzing the data with an ANCOVA model, it must be determined if there is any significant interaction between the reading readiness scores in kindergarten (covariate) and the placement condition (independent variable). If there is no significant interaction, then this homogeneity of slopes supports an assumption of linear regression. In addition, in a blocking design, a placement condition (independent variable) by socio-economic status (control variable) interaction would need to be

tested. That there were no significant interactions indicated that an ANCOVA could be used with confidence. An Analysis of Variance (ANOVA) was used to test for these interactions. Using Cohen's index of effect size f^2 and the Pearson-Hartley Power Chart, this ANOVA model with 36 subjects (n'=12), *df* (2,24), a=.05 produces a level of power of approximately .80 to detect a main effect for readiness scores in kindergarten (covariate) or the placement condition (independent variable) comparable to that of reading achievement. To detect an interaction for placement condition (independent variable) by socio-economic status (control variable) the ANOVA model with *df* (4,24) produces a level of power of approximately .40 (Keppel, 1991; Pedhazur, 1982; Wilkinson, 1989-90; Winer, 1971).

To test the null hypotheses, that there was no significant relationship between the primary grade placement conditions and the middle school reading achievement of students with learning disabilities, the SYSTAT program was utilized. The data was analyzed in a block ANCOVA design for the following effects: placement condition as an independent variable, socio-economic status as a control variable, and the interaction between placement condition and socio-economic status (Keppel, 1991; Wilkinson, 1989-90).

Summary

The study was conducted to compare the long-term reading achievement of nonpromoted and promoted middle school students with

learning disabilities. The nonpromoted students were from two groups, transition program and retained students. The nonpromoted students received an additional year in school. The promoted students, as a control group, did not receive an additional year of education.

Data were collected from the confidential and permanent records of middle school students, with learning disabilities, in two school districts. Thirty-six students were randomly selected, using a stratified sampling technique, to be included in this study.

Prior to analyzing the reading achievement scores with an ANCOVA model, it was determined that there was no significant effect of the grade level on middle school reading achievement scores, there was no significant interaction between the kindergarten reading scores and placement condition, and no placement condition by socio-economic status interaction. Therefore the ANCOVA model could be used with confidence.

The data were analyzed to compare the reading achievement of middle school students with learning disabilities for each placement condition and level of socio-economic status in a block ANCOVA design. Chapter IV presents a detailed description of the analysis.

CHAPTER IV

ANALYSIS AND EVALUATION

To examine the effects of nonpromotion on the long-term reading achievement of middle school students with learning disabilities, the mean reading achievement test scores were compared at each of placement conditions for each level of socio-economic status. The student's mean reading achievement scores are presented in Table 7 and Figure 4 .

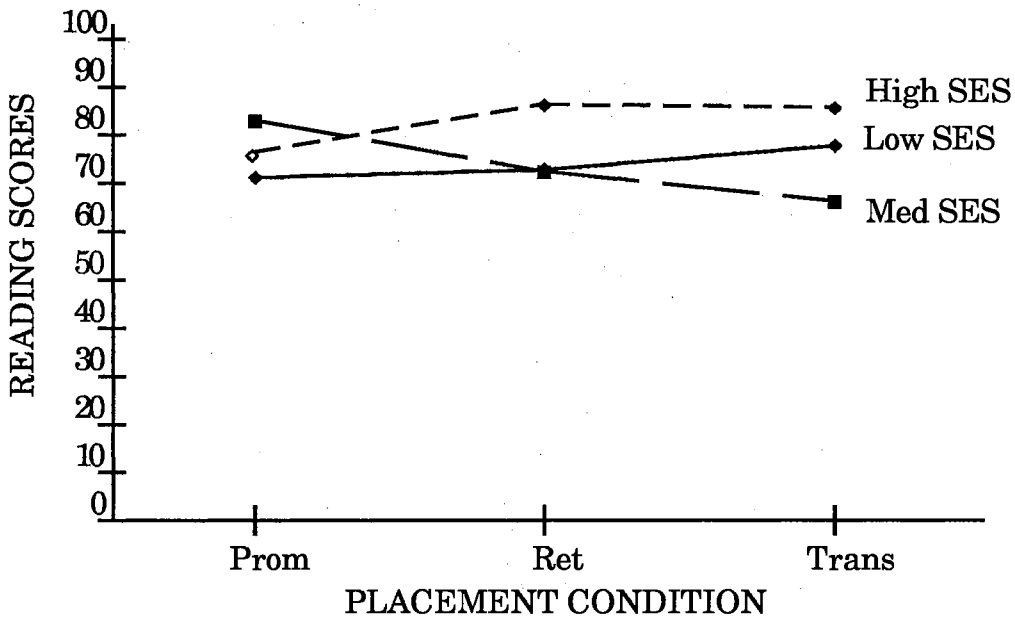
Table 7

Reading Achievement

Placement Condition	Socio-economic Status						Total	
	High		Middle		Low			
	M	SD	M	SD	M	SD	M	SD
Promotion	76.25	14.20	82.75	10.34	71.25	11.35	76.75	11.98
Retention	86.00	12.62	72.50	8.39	73.00	8.60	77.17	11.20
Transition	85.50	7.05	66.25	11.30	77.75	6.29	76.50	11.29
Total	82.58	11.57	73.83	11.56	74.00	8.62	76.81	11.16

Figure 4

Mean Reading Achievement by Placement and SES



Preliminary Analysis

To determine if standard scores of students from differing grade levels (sixth, seventh, and eighth) could be used in a common pool of subjects, an ANOVA was used to determine if there was a grade level effect. The summary table is shown in Table 8. An F (2,33) = 1.351 is not significant at the .05 level. Therefore, any effect of grade level on reading achievement was not significant. The use of sixth, seventh, and eighth graders in the sample for this study does not have any significant consequence on the effect of placement conditions, socio-economic status, or their interaction on reading achievement.

Table 8

ANOVA Summary for Grade Level

Source	*ss*	*df*	*m s*	*F*	*p*
Grade	330.037	2	165.018	1.351	0.273
Error	4031.602	33	122.170		
Total	4361.639	35			

An Analysis of Variance (ANOVA), summary presented in Table 9, was utilized to find if there was a significant interaction between the kindergarten reading scores and placement condition. An F (2,24) = 2.029 is not significant at the .05 level. It appears that the samples were selected from populations in which the differences in kindergarten reading scores are the same between promoted, transitioned, and retained students. This nonsignificant interaction supports an assumption of linear regression (Keppel, 1991; Wilkinson, 1989-90).

Analysis of the interaction between the placement condition and socio-economic status resulted in an F (4,24) = 2.753 (p = 0.051). While not significant at the selected alpha level (a = .05), an additional analysis of the simple effects of placement condition for the different levels of socio-economic status may be required (Keppel, 1991).

The critical value for Tukey's (a) Test: Unconfounded Means with $q_{k'}$ =2.92, df = 24, k' = 5, and a = .05 was 14.7 (Linton & Gallo, 1975).

Transitioned students with a high socio-economic status scored significantly higher than transitioned students with a medium socio-economic status (85.50 - 66.25 = 19.25). All other comparisons were not significant.

Table 9

ANOVA Summary for Placement Condition Interactions

Source	*ss*	*df*	*ms*	*F*	*p*
Placement Condition	271.928	2	135.964	1.340	0.281
SES	477.266	2	238.633	2.351	0.117
Kdg Rdg	1.041	1	1.041	0.010	0.920
Placement Condition x SES	1117.665	4	279.416	2.753	0.051
Placement Condition x Kdg Rdg	411.850	2	205.925	2.029	0.153
Error	2435.928	24	101.497		
Total	4715.678	35			

ANCOVA is robust regarding the interaction between placement condition and socio-economic status. The nonsignificant *F*-ratio for the interaction between placement and kindergarten reading scores show that the groups did not differ on the kindergarten reading scores (covariate). For all practical purposes the groups are random and the Analysis of Covariance could therefore be used with confidence to adjust for chance differences (Keppel, 1991; Winer, 1971).

Testing the Hypothesis

To test the null hypothesis that there is no significant difference in the middle school reading achievement of learning disabled students among primary grade placement conditions, an analysis of covariance (ANCOVA) design was utilized. The ANCOVA design considered the following factors: placement condition (promotion, transition, or retention) as an independent variable, level socio-economic status (low, medium, or high) as a control variable, the interaction between placement condition and socio-economic status, kindergarten reading level as a covariate, and middle school reading achievement as the dependent variable. The summary of this analysis is presented in table 10.

Table 10

ANCOVA Summary

Source	*ss*	*df*	*ms*	*F*	*p*
Placement Condition	4.812	2	2.406	0.022	0.978
SES	598.136	2	299.068	2.730	0.084
Placement Condition *SES	883.987	4	220.997	2.018	0.121
Kdg Rdg (Cov)	25.972	1	25.972	0.237	0.630
Error	2847.778	26	106.530		
Total	4360.685	35			

The interaction between placement condition and socio-economic

status yields an F (4,26) = 2.018 (p = 0.121). These results indicated that if the sample means were taken from populations in which the reading scores for placement conditions are the same for each level of socio-economic status, then the probability of obtaining means as different as the ones in the sample would be greater than the selected alpha level of .05; a nonsignificant finding. That is, the student's reading achievement scores do not change significantly for each placement condition at each level of socio-economic status.

The null hypothesis (H_0) that there is no significant difference in the middle school reading achievement of students with learning disabilities among primary grade placement conditions resulted in an F (2, 26) = 0.022 (p = 0.978). These results suggested that if the sample means for placement condition were taken from populations with the same mean, then the probability of obtaining means as different as the ones in the sample would be greater than the selected alpha level of .05; therefore the null hypothesis should not be rejected.

The test for main effects of socio-economic status resulted in an F (2,26) = 2.730 (p = 0.084). These results suggested that if the sample means for socio-economic status were taken from populations with the same mean, then the probability of obtaining means as different as the ones in the sample would not be significant at the selected alpha level.

Further analysis shows that the Squared Multiple R (see computer printout Appendix D) indicates that 34.7% of the variance in middle school reading achievement was accounted for by the main effects of placement

condition and socio-economic status, and the interaction between placement condition and socio-economic status. A treatment magnitude of this size can be considered meaningful and additional investigations may be warranted (Keppel, 1991; Pedhazur, 1982; Sedlmeier & Gigerenzer, 1989).

The results of the ANCOVA summary show that there were no interactions or main effects that were significant at the .05 level. Pedhazur (1982) indicates that if the amount of variance accounted for is meaningful, then additional steps in the analysis may be required. Considering the results of the ANOVA Summary for Placement Condition Interactions (Table 9) and the results of the Tukey's (a) Test, the effects of socio-economic status were further contrasted. The most significant comparison was between the mean reading score for students with a high level of socio-economic status and the mean reading score for students with medium and low levels of socio-economic status (see computer printout in Appendix D). The F (1,26) = 5.458 (p = 0.027) showed that students with a high level of socio economic status received higher mean scores than the average mean reading score for students with medium and low levels of socio-economic status.

Keppel (1991) states that the main criterion for a covariate is a linear correlation between the covariate and the dependent variable. In this study, the Pearson correlation between reading readiness (covariate) and reading achievement (dependent variable) is 0.079 (see computer printout in Appendix D). Reading readiness was also nonsignificant with an F (1,26) = 0.237 (p = .630) (see computer printout in Appendix D). The inclusion of a

nonsignificant covariate loses a degree of freedom without reducing the mean square error (Wilkinson, 1989-90). The resulting power of this ANCOVA model for detecting the effects of an interaction was approximately .30. In an additional analysis a 3 X 3 ANOVA model was used to increase the degrees of freedom (see computer printout Appendix D). The interaction between placement condition and socio-economic status yields an F (4,27) = 2.077 (p = 0.112). The test for main effects of socio-economic status resulted in an F (2,27) = 2.824 (p = 0.077). Dropping out reading readiness as a covariate did not produce significantly different results and the analysis will focus on the results of the ANCOVA model.

Summary of the Results

The results of the tests for interaction between placement and socio-economic status and between placement and kindergarten reading scores indicate that for all practical purposes the groups have equivalent kindergarten reading scores and can be considered random. In addition the placement groups did not differ in respect to kindergarten reading scores (see computer printout Appendix D). The ANCOVA can be used with confidence to adjust for chance differences.

Statistical analysis of the data at the .05 level of significance reported that the null hypothesis should not be rejected. The results of the ANCOVA revealed that 34.7% of the variance in middle school reading achievement was accounted for by the model. While the results of the ANCOVA summary show that there were no interactions or main effects that were

significant at the .05 level, a treatment magnitude of 34.7% was considered meaningful and additional investigations were performed.

Post-hoc analysis of the preliminary ANOVA results using Tukey's (a) Test: Unconfounded Means showed that transitioned students with a high socio-economic status scored significantly higher than transitioned students with a medium socio-economic status and that all other comparisons were nonsignificant. After the ANCOVA, the effects of socio-economic status were compared (Appendix D). Students with a high level of socio-economic status received higher mean scores than the average mean reading score for students with medium and low levels of socio -economic status.

Therefore while the null hypothesis was not rejected and there were no significant interactions or main effects, over one-third of the variance in reading scores was accounted for by placement condition, socio-economic status, and their interaction. Although socio-economic status was not a primary focus of this investigation, it emerged as a potentially significant factor in the reading achievement scores of middle school students with learning disabilities.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains three main sections. Included in the summary are a restatement of the problem, the selection of the subjects, the procedures used in collecting the data, and a description of the statistical procedures used to analyze the data. The next section includes the finding related to the analyses of the data collected and conclusions that were drawn from the analyses of the data. The final section of this chapter presents recommendations for further research and practical applications of the findings related to this study.

Summary

There is little research evidence to support either nonpromotion or promotion as educational practices. While much of the research has provided mixed findings, it has been suggested that there may be some relationship between reading achievement and nonpromotion as the reading achievement scores of some students increase after nonpromotion practices (Holmes & Matthews, 1984; Niklason, 1984). Several researchers have indicated that initial gains are not maintained into later grades (Abidin et al., 1971; Ogden, 1971; Raygor, 1972). These studies were conducted on regular education students. Attempts to identify particular

subgroups of students, who may benefit from nonpromotion practices, have not been successful (Niklason, 1987; Sandoval, 1982).

While few studies have investigated the effects of nonpromotion on students with learning disabilities, a review of the related literature suggested a lack of information that may be addressed with this study. It has been found that students with learning disabilities experience nonpromotion at twice the rate of students without learning disabilities (McLeskey & Grizzle, 1992; Osborne et al., 1991). Several researchers have suggested that nonpromotion can be beneficial to students with learning disabilities (Peterson, DeGracie, &Ayabe, 1987; Stringer, 1960). While other researchers have suggested that the effects of a learning disability will continue to affect the student's progress in acquiring reading skills and these students may not be viable candidates for nonpromotion (Carstens, 1985; Dawson et al., 1990; Sandoval, 1980). The primary problem to be examined in this study was: does the use of nonpromotion as part of the primary grade experience affect the long-term reading achievement of learning disabled students?

Conclusions

Since the null hypothesis was not rejected, it appears that in this study nonpromotion offers no significant advantage over promotion concerning the long-term reading achievement of middle school students with learning disabilities. If the samples were drawn from populations with the same mean scores, then nonpromotion may not be a beneficial

educational practice for students with learning disabilities.

Socio-economic status appeared to have some influence upon reading achievement scores. The interaction between socio-economic status and placement condition, while not significant appears to have the greatest potential for affecting a student's reading achievement. The potential influence of socio-economic status on reading achievement scores raises some serious questions concerning the outcomes of previous research; was socio-economic status controlled for in prior research and if not, how may have it affected the outcome of studies of reading or other areas of academic achievement.

In spite of the lack of empirical validation in this and other studies, nonpromotion practices flourish. Several factors may help explain the persistence of these beliefs. First, is the tendency of people to overestimate their ability to make complex inferences, especially if these inferences are based on vivid personal experience. When teachers see changes in nonpromoted students, whether academic or social, they attribute those changes to nonpromotion and conclude that this practice was more beneficial than promotion (Carstens, 1985). Often, teachers base their judgements on subjective teacher and parent opinions (Niklason, 1984). Madaus (1988) calls it a "perceptual phenomenon ... - the effect is produced by what individuals perceive to be the case" (p. 80).

A second reason for teachers adhering to their position, in spite of the lack of evidence to support them, is the tendency to perceive justice in behavior-consequence relationships (Ross, 1977). Nonpromotion is viewed

by many teachers as just, independently of its long-term effects. The rationale being good students should be rewarded, while lazy and/or low achieving students should not receive rewards (Carstens, 1985).

Finally, the personal investment of the person making the decision often results in subtle changes in their interaction to promote their view and minimize the child's continued difficulties. Given the powerful effects of placebo and cognitive dissonance, having participated in a program, teachers may have been obliged to look at it favorably. It would then require overwhelming changes in attitudes and practice for educators to change their view and recognize they may have made previous errors in making educational decisions (Carstens, 1985; Sandoval & Fitzgerald, 1985).

While some subgroups of students may benefit from nonpromotion practices, based on the results of this study, students with learning disabilities do not appear to be such a group. Nonpromotion/promotion appear to be firmly entrenched practices that will require overwhelming validation or repudiation to counter the strong biases that affect both sides of the debate. While both sides claim benefits for children, neither side can marshall convincing evidence to support their claims.

Recommendations

Several recommendations can be made based on the results of this study. First, replications of this study should be carried out using samples of nonpromoted and promoted students from other school systems and/or states. Attention should be given to the guidelines listed in Chapter One: (a)

clearly define the treatments and terminology; (b) use a sufficiently large sample size to allow for broad generalization of findings and provide for an adequate comparison group; (c) allow for an adequate period of time to investigate the long-term effects; (d) use a valid and objective measure of reading rather than reliance upon teacher and parent ratings as criteria for success; and, (e) investigate interactive effects between the treatments (Jackson, 1975; Jones & Southern, 1987; Sandoval & Fitzgerald, 1985; Sandoval & Hughes, 1981; Schonhaut & Satz, 1983).

A second recommendation involves potential alternatives. Jackson (1975) points out that nonpromotion does not consider other options that may be more effective in dealing with academic difficulties in school. Since the costs associated with nonpromotion are increasing, the identification of effective alternatives for students with learning disabilities that may prove beneficial to the students, teachers, school districts, and taxpayers becomes increasingly important. When dealing with children who are at-risk for having a learning disability, suggested alternatives to nonpromotion include; (a) early identification, (b) specialized services, (c) supplemental aids and services in the regular classroom, and (d) mainstreaming the transition room concepts into the regular classroom (Leinhardt, 1980; Oermann, 1990; Smith, 1989). Thus, a longitudinal study comparing nonpromotion and promotion with other alternatives may be warranted.

A third recommendation would involve the development of objective criteria on which to base nonpromotion decisions. Jones and Southern (1987) note that when faced with an educational program that does not meet

the needs of some sub-group, the response is to make them more like everyone else rather than of addressing their educational needs. If young students are having difficulty, then make them older rather than examine the curriculum or teachers to decide why students are not meeting expectations. As many nonpromotion decisions continue to be made without objective criteria, further investigation and refinement of those factors identified by Light (1986) and Dennler et al. (1986) may assist educators in making more effective decisions regarding promotion/ nonpromotion.

A fourth recommendation would involve examining socio-economic status. To restate O'Connor & Spreen's (1988) position, it is important to control for socio-economic status when conducting research on students with learning disabilities. The manner in which socio-economic status may affect the outcome of nonpromotion decision may be a concern. As Byrnes (1989) indicated parental communication may be an important factor in how nonpromotion may affect the student. The measure of socio -economic status used in this project may have been too crude to assess the effects of socio-economic status on reading achievement. Perhaps socio -economic status as a composite variable as suggested by O'Connor & Spreen (1988) or a factor index used by Morrison & Hinshaw (1988) would be more sensitive to the effects of socio-economic status on reading achievement.

In summary, this study did not support nonpromotion as an effective educational practice for increasing the long-term reading achievement of

middle school students with learning disabilities. Additional research is need to clarify some issues that may influence the long-term effects of nonpromotion versus promotion when reading achievement is involved. Additional areas that need to be investigated include: (1) potential alternatives such as, early identification, specialized services, supplemental aids and services in the regular classroom, and mainstreaming the transition room concepts into the regular classroom, (2) the development of objective criteria on which to base nonpromotion decisions, and (3) examining socio-economic status in relationship with reading and academic achievement.

Given the disproportional use of nonpromotion for students with learning disabilities and the lack of empirical evidence to support its widespread practice, the use of nonpromotion for students with learning disabilities may be a potentially discriminatory educational practices which may adversely affect educational performance. The continued use of nonpromotion as a primary intervention for students with learning disabilities may not be justified.

The difficulties students experience in learning are too complex to be solved by simple nonpromotion alone. The effects of socio-economic status and alternatives to nonpromotion on the reading achievement need to be investigated. The use of nonpromotion for students with learning disabilities may need to be discontinued until it is shown to be effective. Until then, students with learning disabilities should be properly identified and provided educational services to meet their individual needs.

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APPENDIXES

APPENDIX A

OPERATIONAL DEFINITIONS OF FACTORS AFFECTING THE PROMOTION DECISION

Academic achievement: Student learning in curricular areas measured by standardized achievement tests (Sax, 1989).

Aggressive and disruptive behavior: Verbal abuse toward adults or peers, destructiveness and vandalism, physical attacks on others, noncompliance, or negative behavior (Heward & Orlansky, 1992).

Delinquency: A legal term which refers to offenses an child commits, involving crime or referral to juvenile courts (Heward & Orlansky, 1992). For use with first graders we will use a definition of delinquency which includes a history of discipline problems in the classroom, playground, and community without contact with law enforcement (Light, 1986). These discipline problems will be noted in the student's school records.

Emotional stress: one or more of the following characteristics over a long period of time and to a marked degree: inability to learn which cannot be explained by intellectual, sensory, or health factors; inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior of feelings under normal circumstances; general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms or fears associated with personal or school problems (OSDE, 1990a).

Family transiency: a promoted first grader who has attended more than one school or a nonpromoted first grader who has attended more than two schools prior to the second grade will be considered transient (Light, 1986).

Gender: Sex may be a factor as boys were retained significantly more than girls (Carstens, 1985).

Intelligence: The ability to adjust or adapt to the environment, the ability to learn, or the ability to perform abstract thinking. Intelligence tests, such as the Wechsler Intelligence Scales for Children - Revised or the Stanford-Binet Intelligence Scale: Fourth Edition, adequately measure most of the important aspects (Sattler, 1988).

Lack of effort or motivation: Student is disinterested in school and needs one to-one encouragement to complete assignments or will avoid school related tasks (within academic achievement level) even when offered individual help (Light, 1986).

Limited English proficiency: The knowledge of English language will be determined by either a test of limited English proficiency or documentation that a student comes from a family where English is not the predominant language used and this language difference severely affects the student's success in school (OSDE, 1990b).

Low socio-economic level: low socio-economic level will be determined by the students ability to qualify under Chapter I guidelines for the free lunch program.

Parental attitudes toward retention: Parental insistence on promotion or rejection of retention will indicate a negative parental attitude towards nonpromotion (Stringer, 1960).

Poor attendance: Student misses more than 25 days of school in nine months (Light, 1986).

Racial/ethnic backgrounds: Ethnic background may be comprised of the following groupings: Caucasian, American Indian, Black, Spanish American, Oriental, Middle East, or other groups.Documentation that the child's cultural background had made success in school difficult (OSDE, 1990b) would rule out a learning disability.

Serious health problems: Having limited strength, vitality, or alertness, due to chronic or acute health problems, such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes (OSDE, 1990a).

Siblings: The presence of siblings in the same grade or one grade level above or below the target student has been reported to affect the promotion decision (Light, 1986).

Size: May be a factor when the students height and/or weight are significantly larger or smaller than his peers (Light, 1986).

Working mothers in the absence of a father in the home: By parent or child report, that a single mother is employed outside of the home for 20 hours or more.

APPENDIX B

REFERRAL FOR EVALUATION AND LEARNING DISABILITIES -- EVALUATION SUMMARY

SDE Form 2
(1 of 2)

STATE DEPARTMENT OF EDUCATION

REFERRAL FOR EVALUATION

Name of Student _____ Address _____

City _____ Zip _____ Phone _____

Birthdate _____ Age _____ Sex _____ School _____ Grade _____

Circle grade(s) repeated: K 1 2 3 4 5 6 7 8 9 10 11 12 None

Mother's/Guardian's/Surrogate Parent's Name	Street	City	Zip	Phone:	Home/Work

Father's/Guardian's/Surrogate Parent's Name	Street	City	Zip	Phone:	Home/Work

Referral made to: _____

State reason for referral: _____

_____

Give specific information about:

Work habits/attention: _____

_____

Pre-Academic/Academic performance: _____

_____

Behavior in regular learning environment: _____

_____

Supplemental aids and services used, or attempted, in the regular learning environment: _____

_____

If supplemental aids and services are not being used, or will not be attempted in the regular learning environment, state why:

_____

To expedite evaluation procedures this form should be filled out in its entirety and provided to the agency that will be conducting the evaluation along with a signed Parent Permission form.

Referring Person: _____ Position: _____

Date _____

Educational Data: (2 of 2)

Preschool: _____

Attended Kindergarten: Yes _____ No _____ If attending Kindergarten: a.m. _____ p.m. _____

If attending Vo-Tech: a.m. _____ p.m. _____

List programs attended and any related services being received:

Special Education _____ Remedial/Other _____

Previous schools attended: _____

Please indicate any recent group/individual assessments that have been given in these areas. For areas in which achievement test scores are not available, check classroom performance in appropriate column.

	Date	Evaluation Measure	Developmental Levels
1. Expressive Language			
2. Receptive Language			
3. Gross Motor			
4. Fine Motor			
5. Self-Help/Social			
6. Cognitive			

	Date	Eval.	Level	Classroom Performance*	
				S	U
1. Oral Expression					
2. Listening Comprehension					
3. Written Expression					
4. Basic Reading Skills					
5. Reading Comprehension					
6. Mathematic Calculation					
7. Mathematic Reasoning					

* S-Satisfactory U-Unsatisfactory

Previous Evaluations: Date Test Given Agency

_____ _____ _____

_____ _____ _____

Language/Communication Data:

Child's native language/mode of communication _____

Language spoken at home: _____

Speech/language problems: Yes _____ No _____ Describe _____

Receiving speech/language therapy: Present _____ Previous _____ None _____

Health Data:

Hearing problems: Yes _____ No _____ Describe _____

Date of last hearing test/screening _____ Results _____

Visual problems: Yes _____ No _____ Describe _____

Date of last visual test/screening _____ Results _____

Describe any physical limitations or motor impairments _____

_____

Other pertinent medical or developmental information _____

_____

List medication taken regularly _____ Reason _____

Additional Considerations:

Each school district/public agency is required by P.L. 94-142 to document **social or cultural background information and adaptive behavior functioning** for eligibility/placement decisions. Information on methods of assessing adaptive behavior is available from Special Education Services of the State Department of Education.

SDE Form 5

STATE DEPARTMENT OF EDUCATION

Learning Disabilities--Evaluation Summary

Name_____ Date_____

DOB_____ Grade Placement_____ School_____

1. Summary of observation of academic performance/behavior in the regular class or age appropriate environment by a team member other than the child's regular teacher:

_____

_____ _____
Observer

2. The relationship of observed behavior to the child's academic performance. _____

_____

3. Educationally relevant medical findings:

_____

_____

4. A significant discrepancy exists between ability and the following achievement areas:

_____ Listening Comprehension
_____ Oral Expression
_____ Basic Reading Skills
_____ Reading Comprehension
_____ Written Expression
_____ Mathematics Calculation
_____ Mathematics Reasoning

5. Basis for making discrepancy determination:

_____

_____

6. Is there evidence of a severe discrepancy between ability and achievement which is not correctable without special education and/or related services: ____Yes, ____ No

7. *Ruled out as primary cause: (X)

____a. Physical/Sensory Handicaps
____b. Mental Retardation
_____c. Emotional Disturbance
_____d. Environmental, or cultural, economic disadvantage

*If not ruled out, the child is not eligible for learning disabilities placement.

8. Student's Name: _____

_____does _____does not meet the criteria to qualify as learning disabled.

_____ Agree_____**Disagree_____
Classroom Teacher

_____ Agree_____**Disagree_____
Diagnostic Team Member

_____ Agree_____**Disagree_____
Learning Disabilities Teacher

_____ Agree_____**Disagree_____
Other Specialist

_____ Agree_____**Disagree_____
Other Specialist

**If the team member disagrees he/she must submit a separate statement presenting his/her conclusions.

APPENDIX C

WRITTEN AGREEMENTS

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
FOR HUMAN SUBJECTS RESEARCH

Proposal Title: The First Grade Experience and the Reading Performance of Learning Disabled Students Entering High School

Principal Investigator: Barbara Wilkinson / John Vaughn

Date: 5-8-92 IRB # GU-92-008

This application has been reviewed by the IRB and

Processed as: Exempt [ ] Expedite [XX] Full Board Review [ ]

Renewal or Continuation [ ]

Approval Status Recommended by Reviewer(s):

Approved [xx] Deferred for Revision [ ]

Approved with Provision [ ] Disapproved [ ]

Approval status subject to review by full Institutional Review Board at next meeting, 2nd and 4th Thursday of each month.

Comments, Modifications/Conditions for Approval or Reason for Deferral or Disapproval:

Signature: Marcia S. Tilley Date: 6-18-92

Chair of Institutional Review Board

WRITTEN AGREEMENT FOR DISCLOSURE OF CONFIDENTIAL INFORMATION

I, John C. Vaughn of East Central University, request access to the education records of Holdenville Public Schools in whole for the purpose of conducting a study to improve instruction in accordance with Section 438 of Public Law 93-380, known as the Family Educational Rights and Privacy Act (FERPA). The Holdenville School District's FERPA policy, adopted by the Board of Education, allows Holdenville School District to permit third party access to a student's education records to conduct studies to improve instruction, as stated in Title 34 of the Code of Federal Regulations Part 99.31 (a) 6. As noted in the FERPA policy, a written agreement must be in effect to allow disclosure of confidential information. This form, when properly signed and dated, shall constitute a written agreement to allow disclosure of confidential information.

The study will be conducted in a manner that does not permit personal identification of parents and/or students by individuals other than those directly involved. The information will be destroyed when no longer needed for the purpose of the study.

John C. Vaughn, M. S. (Date) 5-21-92

Authorized School Official (Date) 5-21-92

_____ (Date)

_____ (Date)

WRITTEN AGREEMENT FOR DISCLOSURE OF CONFIDENTIAL INFORMATION

I, John C. Vaughn of East Central University, request access to the education records of Ada City Schools in whole for the purpose of conducting a study to improve instruction in accordance with Section 438 of Public Law 93-380, known as the Family Educational Rights and Privacy Act (FERPA). The Ada City Schools' FERPA policy, adopted by the Board of Education, allows Ada City Schools to permit third party access to a student's education records to conduct studies to improve instruction, as stated in Title 34 of the Code of Federal Regulations Part 99.31 (a) 6. As noted in the FERPA policy, a written agreement must be in effect to allow disclosure of confidential information. This form, when properly signed and dated, shall constitute a written agreement to allow disclosure of confidential information.

The study will be conducted in a manner that does not permit personal identification of parents and/or students by individuals other than those directly involved. The information will be destroyed when no longer needed for the purpose of the study.

John C. Vaughn — 6-4-92

John C. Vaughn, M . S. (Date)

Richard Ross 6-4-92

Authorized School Official (Date)

_____

(Date)

_____

(Date)

APPENDIX D

DATA

DATA SHEET

Information from Psychoeducational Evaluation

1. **ID Number** _____

2. **Age at evaluation: years** _____ **months** _____

3.

ACHIEVEMENT	Kdg*	Mid Sch	grade
Reading			

* may be available from Readiness Testing [e.g. Metropolitan Readiness Test [MRT] or Metropolitan Acievement Test [MAT])

Information from Initial Referral for Evaluation [SDE Form 2]

5. **Circle grade(s) repeated: K 1 2 3 4 5 6 7 8 None**

If grade (s) K or 1 were repeated, did student attend transition program?

☐ **no** ☐ **yes (type)** _____

6. **Behavior in regular learning environment** [check terms used by the teacher]

☐ **aggressive** ☐ **disruptive behavior**

☐ **discipline problem** ☐ **other (describe)** _____

7. **Child's native language/mode of communication** _____

Language spoken at home: _____

Information from school records or interview

8. Ethnic/Racial Characteristics:

☐ Caucasian ☐ American Indian ☐ Black ☐ Spanish American ☐ Oriental ☐ Middle East ☐ Other

9. **Missed more than 25 days during first grade** ☐

RAW DATA

id$	age	gr	gr$	SES	SES$	KRdg	Ethnic	Ethnic$	Place	Place$	Rdg
MC077	161	7	2	1	low	10	1	cauc	1	prom	83
MC001	164	8	3	1	low	30	1	cauc	1	prom	66
MC068	172	8	3	1	low	22	3	AI	1	prom	78
MC069	186	8	3	1	low	01	1	cauc	1	prom	58
MC026	160	7	2	2	med	19	1	cauc	1	prom	98
MC057	155	7	2	2	med	27	1	cauc	1	prom	75
ML114	171	8	3	2	med	21	1	cauc	1	prom	79
ML116	171	8	3	2	med	21	1	cauc	1	prom	79
MC016	160	8	3	3	hi	99	1	cauc	1	prom	90
MC029	164	8	3	3	hi	47	1	cauc	1	prom	64
MC066	159	8	3	3	hi	01	2	black	1	prom	64
ML104	157	7	2	3	hi	29	1	cauc	1	prom	87
MC050	162	7	2	1	low	27	2	black	2	ret	77
MC059	166	7	2	1	low	6	1	cauc	2	ret	83
MC062	162	7	2	1	low	2	3	AI	2	ret	64
ML107	163	8	3	1	low	90	1	cauc	2	ret	68
MC056	148	6	1	2	med	43	1	cauc	2	ret	60
MC004	173	7	2	2	med	10	2	black	2	ret	76
MC043	171	8	3	2	med	15	2	black	2	ret	76
ML117	167	7	2	2	med	29	2	black	2	ret	78
MC052	169	7	2	3	hi	86	1	cauc	2	ret	94
MC087	186	8	3	3	hi	90	1	cauc	2	ret	69
MC088	155	6	1	3	hi	5	1	cauc	2	ret	84
MC021	170	8	3	3	hi	66	1	cauc	2	ret	97
MC078	166	7	2	1	low	15	1	cauc	3	trans	75
MC053	171	8	3	1	low	28	1	cauc	3	trans	87
MC076	188	8	3	1	low	28	2	black	3	trans	73
MC060	160	7	2	1	low	43	1	cauc	3	trans	76
ML124	154	6	1	2	med	90	1	cauc	3	trans	56
MC033	161	6	1	2	med	14	3	AI	3	trans	57
MC036	179	7	2	2	med	16	1	cauc	3	trans	77
ML122	179	8	3	2	med	18	1	cauc	3	trans	75
MC031	147	6	1	3	hi	18	1	cauc	3	trans	83
MC037	148	6	1	3	hi	60	1	cauc	3	trans	82
MC040	156	6	1	3	hi	88	1	cauc	3	trans	81
MC063	167	8	3	3	hi	18	2	black	3	trans	96

THE FOLLOWING RESULTS ARE FOR:
SES = low
PLACE = prom

TOTAL OBSERVATIONS: 4

RDG

N OF CASES	4
MEAN	71.250
VARIANCE	128.917
STANDARD DEV	11.354
STD. ERROR	5.677
SUM	285.000

THE FOLLOWING RESULTS ARE FOR:
SES = low
PLACE = ret

TOTAL OBSERVATIONS: 4

RDG

N OF CASES	4
MEAN	73.000
VARIANCE	74.000
STANDARD DEV	8.602
STD. ERROR	4.301
SUM	292.000

THE FOLLOWING RESULTS ARE FOR:
SES = low
PLACE = trans

TOTAL OBSERVATIONS: 4

RDG

N OF CASES	4
MEAN	77.750
VARIANCE	39.583
STANDARD DEV	6.292
STD. ERROR	3.146
SUM	311.000

THE FOLLOWING RESULTS ARE FOR:
SES = middle
PLACE = prom

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	82.750
VARIANCE	106.917
STANDARD DEV	10.340
STD. ERROR	5.170
SUM	331.000

THE FOLLOWING RESULTS ARE FOR:
SES = middle
PLACE = ret

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	72.500
VARIANCE	70.333
STANDARD DEV	8.386
STD. ERROR	4.193
SUM	290.000

THE FOLLOWING RESULTS ARE FOR:
SES = middle
PLACE = trans

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	66.250
VARIANCE	127.583
STANDARD DEV	11.295
STD. ERROR	5.648
SUM	265.000

THE FOLLOWING RESULTS ARE FOR:
SES = hi
PLACE = prom

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	76.250
VARIANCE	201.583
STANDARD DEV	14.198
STD. ERROR	7.099
SUM	305.000

THE FOLLOWING RESULTS ARE FOR:
SES = hi
PLACE = ret

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	86.000
VARIANCE	159.333
STANDARD DEV	12.623
STD. ERROR	6.311
SUM	344.000

THE FOLLOWING RESULTS ARE FOR:
SES = hi
PLACE = trans

TOTAL OBSERVATIONS: 4
RDG

N OF CASES	4
MEAN	85.500
VARIANCE	49.667
STANDARD DEV	7.047
STD. ERROR	3.524
SUM	342.000

THE FOLLOWING RESULTS ARE FOR:
SES = low

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	74.000
VARIANCE	74.364
STANDARD DEV	8.623
STD. ERROR	2.489
SUM	888.000

THE FOLLOWING RESULTS ARE FOR:
SES = middle

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	73.833
VARIANCE	133.606
STANDARD DEV	11.559
STD. ERROR	3.337
SUM	886.000

THE FOLLOWING RESULTS ARE FOR:
SES = hi

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	82.583
VARIANCE	133.902
STANDARD DEV	11.572
STD. ERROR	3.340
SUM	991.000

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = prom

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	76.750
VARIANCE	143.477
STANDARD DEV	11.978
STD. ERROR	3.458
SUM	921.000

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = ret

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	77.167
VARIANCE	125.424
STANDARD DEV	11.199
STD. ERROR	3.233
SUM	926.000

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = trans

TOTAL OBSERVATIONS: 12

RDG

N OF CASES	12
MEAN	76.500
VARIANCE	127.364
STANDARD DEV	11.286
STD. ERROR	3.258
SUM	918.000

TOTAL OBSERVATIONS: 36

RDG

N OF CASES	36
MINIMUM	56.000
MAXIMUM	98.000
MEAN	76.806
VARIANCE	124.618
STANDARD DEV	11.163

ANOVA Summary for Grade Level

THE FOLLOWING RESULTS ARE FOR:
GR$ = 6

TOTAL OBSERVATIONS: 7

RDG

N OF CASES	7
MINIMUM	56.000
MAXIMUM	84.000
MEAN	71.857
STANDARD DEV	13.359

THE FOLLOWING RESULTS ARE FOR:
GR$ = 7

TOTAL OBSERVATIONS: 13

RDG

N OF CASES	13
MINIMUM	64.000
MAXIMUM	98.000
MEAN	80.231
STANDARD DEV	8.880

THE FOLLOWING RESULTS ARE FOR:
GR$ = 8

TOTAL OBSERVATIONS: 16

RDG

N OF CASES	16
MINIMUM	58.000
MAXIMUM	97.000
MEAN	76.188
STANDARD DEV	11.589

SUMMARY STATISTICS FOR RDG

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.488 DF= 2 PROBABILITY = 0.475

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	330.037	2	165.018	1.351	0.273
WITHIN GROUPS	4031.602	33	122.170		

ANCOVA Summary

DEP VAR: RDG N: 36 MULTIPLE R: 0.589
SQUARED MULTIPLE R: 0.347

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
SES	598.136	2	299.068	2.730	0.084
PLACE	4.812	2	2.406	0.022	0.978
SES* PLACE	883.987	4	220.997	2.018	0.121
KRDG	25.972	1	25.972	0.237	0.630
ERROR	2847.778	26	109.530		

ANOVA Summary for Placment Interactions

DEP VAR: RDG N: 36 MULTIPLE R: 0.664
SQUARED MULTIPLE R: 0.442

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
PLACE	271.928	2	135.964	1.340	0.281
SES	477.266	2	238.633	2.351	0.117
KRDG	1.041	1	1.041	0.010	0.920
PLACE* SES	1117.665	4	279.416	2.753	0.051
PLACE* KRDG	411.850	2	205.925	2.029	0.153
ERROR	2435.928	24	101.497		

DEP VAR: RDG N: 36 MULTIPLE R: 0.079

SQUARED MULTIPLE R: 0.006

ADJUSTED SQUARED MULTIPLE R: 0.000

STANDARD ERROR OF ESTIMATE: 11.290

VARIABLE	COEFFICIENT	STD ERROR	STD COEF	TOL	T	P (2 TAIL)
CONSTANT	75.776	2.907	0.000	.	26.069	0.000
KRDG	0.030	0.065	0.079	1.000	0.465	0.645

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
REGRESSION	27.557	1	27.557	0.216	0.645
RESIDUAL	4334.082	34	127.473		

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = prom

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	27.250
STANDARD DEV	25.934

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = ret

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	39.083
STANDARD DEV	34.943

THE FOLLOWING RESULTS ARE FOR:
PLACE$ = trans

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	36.333
STANDARD DEV	28.072

SUMMARY STATISTICS FOR KRDG

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.042 DF= 2 PROBABILITY = 0.594

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	P
BETWEEN GROUPS	920.389	2	460.194	0.515	0.602
WITHIN GROUPS	29497.833	33	893.874		

MATRIX OF PAIRWISE ABSOLUTE MEAN DIFFERENCES

	1	2	3
1	0.000		
2	11.833	0.000	
3	9.083	2.750	0.000

TUKEY HSD MULTIPLE COMPARISONS
MATRIX OF PAIRWISE COMPARISON PROBABILITIES

	1	2	3
1	1.000		
2	0.601	1.000	
3	0.739	0.973	1.000

THE FOLLOWING RESULTS ARE FOR:
SES = 1.000

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	25.167
STANDARD DEV	24.113

THE FOLLOWING RESULTS ARE FOR:
SES = 2.000

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	26.917
STANDARD DEV	21.677

THE FOLLOWING RESULTS ARE FOR:
SES = 3.000

TOTAL OBSERVATIONS: 12

KRDG

N OF CASES	12
MEAN	50.583
STANDARD DEV	35.697

SUMMARY STATISTICS FOR KRDG

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 3.079 DF= 2 PROBABILITY = 0.214

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	P
BETWEEN GROUPS	4836.722	2	2418.361	3.120	0.057
WITHIN GROUPS	25581.500	33	775.197		

MATRIX OF PAIRWISE ABSOLUTE MEAN DIFFERENCES

	1	2	3
1	0.000		
2	1.750	0.000	
3	25.417	23.667	0.000

TUKEY HSD MULTIPLE COMPARISONS
MATRIX OF PAIRWISE COMPARISON PROBABILITIES

	1	2	3
1	1.000		
2	0.987	1.000	
3	0.080	0.109	1.000

DEP VAR: KRDG N: 36 MULTIPLE R: 0.174
SQUARED MULTIPLE R: 0.030

ESTIMATES OF EFFECTS $B = (X'X)^{-1} X'Y$

		KRDG
CONSTANT		34.222
PLACE	1	-6.972
PLACE	2	4.861

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
PLACE	920.389	2	460.194	0.515	0.602
ERROR	29497.833	33	893.874		

MATRIX OF SPEARMAN CORRELATION COEFFICIENTS

	PLACE	SES	RDG	KRDG
PLACE	1.000			
SES	0.000	1.000		
RDG	-0.039	0.334	1.000	
KRDG	0.080	0.274	0.090	1.000

NUMBER OF OBSERVATIONS: 36

PEARSON CORRELATION MATRIX

	PLACE	SES	RDG	KRDG
PLACE	1.000			
SES	-0.000	1.000		
RDG	-0.009	0.318	1.000	
KRDG	0.128	0.357	0.079	1.000

NUMBER OF OBSERVATIONS: 36

ANOVA Summary with Covariate removed

DEP VAR: RDG N: 36 MULTIPLE R: 0.584
SQUARED MULTIPLE R: 0.341

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
SES	601.056	2	300.528	2.824	0.077
PLACE	2.722	2	1.361	0.013	0.987
SES* PLACE	884.111	4	221.028	2.077	0.112
ERROR	2873.750	27	106.435		

TEST FOR EFFECT CALLED:

SES

A MATRIX

1	2	3	4	5
0.000	3.000	3.000	0.000	0.000
6	7	8	9	10
0.000	0.000	0.000	0.000	0.000

NULL HYPOTHESIS CONTRAST AB

-18.951

INVERSE CONTRAST A(X'X) $^{-1}$ A'

0.601

TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	597.839	1	597.839	5.458	0.027
ERROR	2847.778	26	109.530		

VITA

John C. Vaughn

Candidate for the Degree of

Doctor of Philosophy

Thesis: PRIMARY GRADE EXPERIENCES AND THE READING PERFORMANCE OF STUDENTS WITH LEARNING DISABILITIES IN THE MIDDLE SCHOOL

Major Field: Applied Behavioral Studies

Biographical:

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Education: Received Associate of Arts in Business at Chaffey College, Alta Loma, California, in June 1966; Bachelor of Arts in Psychology at San Francisco State University, San Francisco, California, in January 1973; Master of Science in Psychological Services at East Central University, Ada, Oklahoma, in August 1985; completed requirements for the Doctor of Philosophy at Oklahoma State University in December, 1993.

Professional Experience: Assistant Professor in Special Education at East Central University, from August 1990 to present; Director of Special Services at Atoka-Coal Special Services Co-op, from August 1989 to August 1990; Psychometrist/Prescriptive Teacher for the Oklahoma State Department of Education - Regional Education Service Center from August 1985 to August 1989; Special Education Teacher at Coalgate City Schools from August 1978 to August 1985;